

VERSION SHOWING THE CHANGES TO THE SPECIFICATION

Amend the specification as follows:

[002] [002] When fabricating electric circuits based on organic materials, as in the case of organic diodes, condensers and, in particular, organic field effect transistors (OFETs) for example, thin layers of an organic functional material are applied to suitable substrates of ~~silicon~~^{silicon}, glass or plastics material by various methods, such as spin-coating, knife coating, spraying, plotting, printing, vapor deposition, sputtering, ~~etc.~~^{etc.}. In order to obtain favorable material characteristics conducive to good electrical performance, ~~i.e.~~^{i.e.} characteristics such as high electrical conductivity or a high charge carrier mobility, it is advantageous to produce a certain degree of molecular orderliness in the organic functional material.

[009] The term “organic material” or “functional material” or “(functional) polymer” includes in this case all types of organic, organometallic, and/or organic-inorganic man-made materials (hybrids), particularly those referred to in the English language as, e.g., ~~eg.~~ “plastics”. All types of materials are suitable with the exception of the semiconductors forming classical diodes (germanium, silicon) and the typical metallic conductors. It is thus not intended to dogmatically confine organic material to that consisting of purely carbonaceous material, but rather the term also covers the wide use of, say, silicones. Furthermore, the term should not, with respect to molecular size, be particularly confined to polymeric and/or oligomeric materials, but can also refer to the

use of “small molecules”. The word component “polymer” in the term “functional polymer” is of historical origin and contains no inference to the presence of an actual polymeric compound.

[0011] Due to the fact that the polymer films are stretched during manufacture and subsequent processing thereof, some of the crystallites formed in the substrate and thus also on its surface ~~sur10 face~~ are highly ordered and assume the form of parallel molecular chains or chain portions which make it possible to deposit, as well-ordered layers, conjugated polymers and also organic materials of lower molecular weight (monomers, oligomers and/or “small molecules”) in conducting and non-conducting forms as well as in semiconducting and nonsemiconducting forms. Application of the said organic functional layer can be carried out from solution (spin-coating, printing, immersion, knife coating etc.) ~~etc.~~ or alternatively from the vapor phase (vapor deposition, sputtering etc.) ~~etc.~~. The orientation of the substrate allows it to serve as a so-called “alignment template” and leads to the formation of highly ordered areas in the precipitated functional material, which leads to higher conductivity and/or higher charge carrier mobility.

[0015] An organic field effect transistor (OFET) applied in this manner to a substrate which has ~~[[5]]~~ been pre-oriented by stretching shows a charge carrier mobility of ~~$\mu > 10^3 \text{ cm}^2/\text{Vs}$~~ $\mu > 10^{-3} \text{ cm}^2/\text{Vs}$. This value is several orders of magnitude higher than

the mobility possible in OFETs of identical structure but having a non-oriented substrate, ~~eg~~ one of silicon or silicon dioxide.

[0016] The invention makes it possible, for the first time, to increase the charge carrier mobility in [[10]] organic semi-conductors by several orders of magnitude due to the selection of a suitable substrate.